INDEX TO VOLUME LXXXVI.

January 1 to June 30, 1907.

A

Accidents, Recent Railway, and the Safety of Gas Lighting 100
*Accidents with Gas Engines Due to Belts, by "R." 927
Accountant on Depreciation, An..... 847
*Accountancy in the Gas Business, by H. L. Millspaugh 797
Accounts and Records, The Present and Growing Need for the General Adoption of a Uniform System of, by Dr. Alexander C. Humphreys 398, 444
Acetone, Rapid Method for Estimating 937
Adiabatic Volume-Change on Mixing Two Gases, Note on the, by Alfred J. Lotka..... 935
Address of President George B. McLean, Iowa District Gas Association..... 1058
Address of President John Corscot, Wisconsin Gas Association 884
Address of President William J. Clark, National Commercial Gas Association, New York Meeting, January, 1907..... 228
Address of President William McGregor, New England Association of Gas Engineers..... 354
*Advertising Gas, a Cincinnati Method of..... 974
Air and Gas, Explosive Phenomena of Mixtures of 936
Alcohol, Denatured, as Probable Fire Risk Reducer and Health Promoter 408
Alcohol Engines as a Future Power, by Dr. Elihu Thomson 52
Alcohol Law in Force, The Free..... 57
American Gas Institute, First Annual Meeting 3, 46, 90
*American Institute of Electrical Engineers, April Meeting of the 805
*Analysis of the Causes of Candle Power Diminution in Frosted Lamps, An, by Preston S. Millar 716
*Ancient Gasholder, An 888
*Anderson Cushioned Type B Non-return Valve, The 929
*"And the Blow Almost Killed Father"..... 365
Appliances, Why the Milwaukee Gas Company Sells 539
Arc Lamp, Gas, Introduction of the, by G. R. Chamberlain 274
Arc Maintenance, Gas, Methods and Results, by J. C. Grey 1059
*Asphaltic Dripped, Roller Compressed Road Making in Santa Monica, Cal..... 625
*Auto-Thermo Instantaneous Water Heaters, The Humphrey Crescent 839

B

*Barrel Making, The First Use of Gas in..... 232
Battin, W. J., Water Gas Machines, The Best Method of Operating 751
*Belts, Accidents with Gas Engines Due to, by "R." 927
Benches, Gas, Coal as a Fuel for Firing, by W. R. Rhoades 665
Bench Fuel Economies, by F. M. Richards..... 886
*Bending Machine, Pipe, Stoever's..... 761
*Blue Print Frame in the Gas Engineering Shop, by "R." 760
*B Non-return Valve, The Anderson Cushioned Type 929
*Boiler Repair Toggle Belt 1023
*Bone, W. A., and R. V. Wheeler, Steam in Gas Producer Practice 929, 974
Bonnet, Frederic, Jr., Rare Earths and the Incandescent Mantle..... 888
*Brazilian Gas Office Building, A..... 891
*Brief Theory of the Reduction in the Service Life of Frosted Incandescent Lamps, A, by Dr. A. E. Kennelly..... 890
Building of the Engineering Societies, The Plan and Scope of the Illuminating Provision..... 622
Bump, M. R., Electrolysis of Gas Mains..... 452
Burners, Incandescent Gas, Sensitiveness of, to Sound 838
Burritt, D. F., Naphthaline, Methods of Removing from a 16-Inch Pipe..... 574
Business Methods, New, by Arthur D. Mackie.. 669
Business, Schemes for Increasing, by J. G. Learned 619

C

Calorific Value and Illuminating Power, by R. Nelson 188
*Candle Power Diminution in Frosted Lamps, An Analysis of the Causes of, by Preston S. Millar 716
*Cathode, Röntgen and Positive Rays, by Prof. J. J. Thomson 622
Cement, Portland 142
Central Stations in Small Cities, A New Business Department for, by C. E. Stannard..... 846
Central Station Work, Illuminating Engineering in, by W. W. Edwards 980
*Centrifugal Oil Filter, The Turbine..... 717
Chamberlain, G. R., Gas Arc Lamp, Introduction of the 274
*Chats with a Meter Taker, by "Inspector"..... 796
Chicago Section, Illuminating Engineering Society, The May Meeting of the 934
*Cincinnati Method of Advertising Gas, A..... 974
Clark, John C. D., Customers' Piping, Rehabilitation of 185
Clark, William J., President National Commercial Gas Association, New York Meeting, January, 1907, Address of 228
*Clark, W. J., Lighting of the Offices of the Consolidated Gas Company, N. Y. 493
*Cleaning Out Gas Pipes, by "R." 842
Clerk, Dugald, on Flame Engines..... 585
Clifford, E. H., Moore Tube System of Lighting, The 839
Coal as a Fuel for Firing Gas Benches, by W. R. Rhoades 665
Coal Industry in Indiana, The 276
Coal, Influence of Lengthy Storage of, on Coking Qualities of Same..... 843
Coal Mining, Government Tests for Explosives Used in 1064
Coals, Gas, A Proposed Classification of, by Henry I. Lea 885
Coal Situation, The Washington, by R. P. Tarr. 934
Coal, West Virginia, The Government Tests on. 981
Codman, J. S., Progress in Lighting, Aids to.... 628
*Cohn, Charles M., Lighting of an Office Building, The 671
*Coke and Its Application to Domestic Fires, The Production of, by Paul Schlicht.....970, 1021
Colors of Recent Illuminants, The 278
Commercial Departments in the West, Some, by E. N. Wrightington 489
Commercial Gas Man, The Relation of the, to the Industry, by Charles A. Learned, John C. D. Clark and Richard H. Thomas..... 93
*Committee on Electrolysis, Report of, Prepared for the American Gas Light Association and Submitted to the American Gas Institute on Behalf of the Former as a Contribution to the Proceedings of the Latter.....97, 137, 178, 222, 266, 310
*Committee on Standard Methods of Testing Fuel Gas Appliances, Report of, Submitted to the American Gas Institute, Chicago, Oct., 1906, on Behalf Ohio Gas Light Association.401, 447
Concrete and Masonry, Waterproofing, by Edward W. DeKnight 364
*Concrete, Electrolytic Corrosion of Iron and Steel in, by A. A. Knudson..... 801
Concrete, Selecting Proper Proportions for..... 144
Concrete Structures, Reinforced, The Lesson from Recent Failures of 140
Cooking by Gas—Is It Injurious to the Meat?.... 364

CORRESPONDENCE—

Illinois Gas Association, Peoria Meeting, Special Correspondence 536
Mackie, Mr. A. D., Explains his Remarks Respecting the Matter of a "Close Second" 762
Special English Correspondence, 144, 365, 541, 717, 893

Corscot, John, President Wisconsin Gas Association, Address of 884
Cowles, J. W., Electrical Illumination, The Progress of 627
Cravath, J. R., Illuminating Engineering for the Small Central Station, Some Points on..... 189
*Crescent Auto-Thermo Instantaneous Water Heaters, The Humphrey 839
Cressler, George H., Gasholder Construction, The Development of 926
*Cushioned Type B Non-return Valve, The Anderson 929

D

D'Aprix, Edward, House Piping and the Like... 799
De Knight, Edward W., Waterproofing Concrete and Masonry 364
Denatured Alcohol as Probable Fire Risk Reducer and Health Promoter 408
Depreciation, an Accountant on 847
Development of Gasholder Construction, The, by George H. Cressler 926
*Diagram Covering 15 Years in the Business, by S. J. Fowler 575
Diaries, Power Plant 9.8
*Die Stock, The Beaver Easy Working..... 584
*Domestic Fires, The Production of Coke and its Application to, by Paul Schlicht.....970, 1021
Domestic Gas Lighting, from the Fixture Manufacturer's Standpoint, by L. R. Hopton..... 358
Dow, J. S., Street Photometry, Some Difficulties in 141
*Dredge, Pneumatic Pipe..... 928
*Due to Belts, Accidents with Gas Engines, by "R." 927
Dust Reducing and Hardening Roads by Surface Applications, by J. W. Howard.....582, 624

E

*Easy Working Die Stock, The Beaver..... 584
Economies, Bench Fuel, by F. M. Richards..... 886

EDITORIALS—

Allyn, Horace A., Obituary Note..... 133
American Institute of Electrical Engineers, Regular Meeting 705
American Gas Institute, The "Proceedings".. 617
Atlanta, Ga., The Changes at 529
Baxter, I. C., Retires from Active Business.. 486
Chief's Day, The 793
Correction, A 354, 837, 1013
Cosgrove, W. L., A Loving Cup for..... 705
Cowdery, E. G., Goes to Chicago..... 529
Critic, A Timely, and an Interesting One.... 1058
Dye, N. C., Death of 441
Educative Visit, An, Let us Hope..... 617
Explanation, An 882
Famous Gas Engineers, Death of Two..... 485
Gas Aeronautics 354
Good Time, A Belated Mention of a..... 486
Good Values for Good Shares, A Warrant as to 1013
Illinois Association's Meeting, The..... 529
Illinois Gas Association, The Meeting of the. 441
Illinois Gas Association, The Next Meeting of the 221
Illuminating Engineering Society, February Meeting, Philadelphia Section 310
Illuminating Engineering Society, New York Section 134, 529, 1013
Inclosures, Recent 3.4
In Memoriam 617
Iowa District Association Meeting..... 1057
Menu, Mr. E. G. Cowdery's..... 573
Moses, Frank D., to Put Gas into the Jamestown Exposition 486
Mr. Mackie's Honest Belief..... 661
National Commercial Gas Association, Second Annual Meeting 45
Natural Gas Association, The Joplin Meeting of the 925
"Natural Gas Journal, The" 1
New England Association of Gas Engineers, Special Editorial Correspondence..... 309
New England's Thirty-seventh Meeting, The 265
Pease, Arthur C., Obituary Note..... 45
Personal 1013
Personal, A, and a Bit of History..... 617
Philadelphia Situation, The 926
President Clark's Address 222
Printz, Henry Eugene, Obituary Note..... 397
"Proceedings," Western Gas Association, The Last Volume of 89
Referee's Opinion on the New York City Gas Rate Law, The 881
Report, The Right Sort of a 749
Riter, Thomas B., Obituary Note..... 969
Robb, Remembering Mr. J. M. 573
Sanderson, Charles E., Death of 309
Sanderson, Charles E., Obituary Note..... 353
Secretary McManus, Score One for..... 89
Spear, J. Q. A., Obituary Note 1057
State Commission's Standards, The, for Gas Makers to Follow 794
*Weber, Adam, Obituary Note..... 1
What will Come Next? 925
Wisconsin Gas Association, The Sixth Annual Meeting of the 882

Edwards, W. W., Illuminating Engineering in Central Station Work 980
*Electrical Engineers, April Meeting of the American Institute of 805
Electrical Illumination, The Progress of, by J. W. Cowles 627
Electricity and Gas in Germany, Fires Caused by 102
Electrolysis of Gas Mains, by M. R. Bump..... 452
*Electrolysis, Report of Committee on, Prepared for the American Gas Light Association and Submitted to the American Gas Institute on Behalf of the Former as a Contribution to the Proceedings of the Latter.....97, 137, 178, 222, 266, 310
*Electrolytic Corrosion of Iron and Steel in Concrete, by A. A. Knudson 801
Electrolytic Valve Cells..... 844
Elliott, E. L., Illuminating Engineering, Plain Talks on 619
Employees, How to Create Efficient, by E. N. Wrightington 404
Engineering for the Small Central Station, Some Points on Illuminating, by J. R. Cravath.... 189
Engineering Societies, Building of the, The Plan and Scope of the Illuminating Provision..... 622
Engines, Alcohol, as a Future Power, by Dr. Elihu Thomson 52
*Engines and Motors, Gas and Gasoline, as Factors in Modern Machinery, by "Observer".... 552
*Engine, Producer Gas, Test of a 842
Engines, Flame, Dugald Clerk on 585

INDEX TO VOLUME LXXXVI.

January 1 to June 30, 1907.

A

Accidents, Recent Railway, and the Safety of Gas Lighting 100
*Accidents with Gas Engines Due to Belts, by "R." 927
Accountant on Depreciation, An..... 847
*Accountancy in the Gas Business, by H. L. Millspaugh 797
Accounts and Records, The Present and Growing Need for the General Adoption of a Uniform System of, by Dr. Alexander C. Humphreys 398, 444
Acetone, Rapid Method for Estimating 937
Adiabatic Volume-Change on Mixing Two Gases, Note on the, by Alfred J. Lotka..... 935
Address of President George B. McLean, Iowa District Gas Association..... 1058
Address of President John Corscot, Wisconsin Gas Association 884
Address of President William J. Clark, National Commercial Gas Association, New York Meeting, January, 1907..... 228
Address of President William McGregor, New England Association of Gas Engineers..... 354
*Advertising Gas, a Cincinnati Method of..... 974
Air and Gas, Explosive Phenomena of Mixtures of 936
Alcohol, Denatured, as Probable Fire Risk Reducer and Health Promoter 408
Alcohol Engines as a Future Power, by Dr. Elihu Thomson 52
Alcohol Law in Force, The Free..... 57
American Gas Institute, First Annual Meeting 3, 46, 90
*American Institute of Electrical Engineers, April Meeting of the 805
*Analysis of the Causes of Candle Power Diminution in Frosted Lamps, An, by Preston S. Millar 716
*Ancient Gasholder, An 888
*Anderson Cushioned Type B Non-return Valve, The 929
*"And the Blow Almost Killed Father"..... 365
Appliances, Why the Milwaukee Gas Company Sells 539
Arc Lamp, Gas, Introduction of the, by G. R. Chamberlain 274
Arc Maintenance, Gas, Methods and Results, by J. C. Grey 1059
*Asphaltic Dripped, Roller Compressed Road Making in Santa Monica, Cal..... 625
*Auto-Thermo Instantaneous Water Heaters, The Humphrey Crescent 839

B

*Barrel Making, The First Use of Gas in..... 232
Battin, W. J., Water Gas Machines, The Best Method of Operating 751
*Belts, Accidents with Gas Engines Due to, by "R." 927
Benches, Gas, Coal as a Fuel for Firing, by W. R. Rhoades 665
Bench Fuel Economies, by F. M. Richards..... 886
*Bending Machine, Pipe, Stoever's..... 761
*Blue Print Frame in the Gas Engineering Shop, by "R." 760
*B Non-return Valve, The Anderson Cushioned Type 929
*Boiler Repair Toggle Belt 1023
*Bone, W. A., and R. V. Wheeler, Steam in Gas Producer Practice 929, 974
Bonnet, Frederic, Jr., Rare Earths and the Incandescent Mantle..... 888
*Brazilian Gas Office Building, A..... 891
*Brief Theory of the Reduction in the Service Life of Frosted Incandescent Lamps, A, by Dr. A. E. Kennelly..... 890
Building of the Engineering Societies, The Plan and Scope of the Illuminating Provision..... 622
Bump, M. R., Electrolysis of Gas Mains..... 452
Burners, Incandescent Gas, Sensitiveness of, to Sound 838
Burritt, D. F., Naphthaline, Methods of Removing from a 16-Inch Pipe..... 574
Business Methods, New, by Arthur D. Mackie.. 669
Business, Schemes for Increasing, by J. G. Learned 619

C

Calorific Value and Illuminating Power, by R. Nelson 188
*Candle Power Diminution in Frosted Lamps, An Analysis of the Causes of, by Preston S. Millar 716
*Cathode, Röntgen and Positive Rays, by Prof. J. J. Thomson 622
Cement, Portland 142
Central Stations in Small Cities, A New Business Department for, by C. E. Stannard..... 846
Central Station Work, Illuminating Engineering in, by W. W. Edwards 980
*Centrifugal Oil Filter, The Turbine..... 717
Chamberlain, G. R., Gas Arc Lamp, Introduction of the 274
*Chats with a Meter Taker, by "Inspector"..... 796
Chicago Section, Illuminating Engineering Society, The May Meeting of the 934
*Cincinnati Method of Advertising Gas, A..... 974
Clark, John C. D., Customers' Piping, Rehabilitation of 185
Clark, William J., President National Commercial Gas Association, New York Meeting, January, 1907, Address of 228
*Clark, W. J., Lighting of the Offices of the Consolidated Gas Company, N. Y. 493
*Cleaning Out Gas Pipes, by "R." 842
Clerk, Dugald, on Flame Engines..... 585
Clifford, E. H., Moore Tube System of Lighting, The 839
Coal as a Fuel for Firing Gas Benches, by W. R. Rhoades 665
Coal Industry in Indiana, The 276
Coal, Influence of Lengthy Storage of, on Coking Qualities of Same..... 843
Coal Mining, Government Tests for Explosives Used in 1064
Coals, Gas, A Proposed Classification of, by Henry I. Lea 885
Coal Situation, The Washington, by R. P. Tarr. 934
Coal, West Virginia, The Government Tests on. 981
Codman, J. S., Progress in Lighting, Aids to.... 628
*Cohn, Charles M., Lighting of an Office Building, The 671
*Coke and Its Application to Domestic Fires, The Production of, by Paul Schlicht.....970, 1021
Colors of Recent Illuminants, The 278
Commercial Departments in the West, Some, by E. N. Wrightington 489
Commercial Gas Man, The Relation of the, to the Industry, by Charles A. Learned, John C. D. Clark and Richard H. Thomas..... 93
*Committee on Electrolysis, Report of, Prepared for the American Gas Light Association and Submitted to the American Gas Institute on Behalf of the Former as a Contribution to the Proceedings of the Latter.....97, 137, 178, 222, 266, 310
*Committee on Standard Methods of Testing Fuel Gas Appliances, Report of, Submitted to the American Gas Institute, Chicago, Oct., 1906, on Behalf Ohio Gas Light Association.401, 447
Concrete and Masonry, Waterproofing, by Edward W. DeKnight 364
*Concrete, Electrolytic Corrosion of Iron and Steel in, by A. A. Knudson..... 801
Concrete, Selecting Proper Proportions for..... 144
Concrete Structures, Reinforced, The Lesson from Recent Failures of 140
Cooking by Gas—Is It Injurious to the Meat?.... 364

CORRESPONDENCE—

Illinois Gas Association, Peoria Meeting, Special Correspondence 536
Mackie, Mr. A. D., Explains his Remarks Respecting the Matter of a "Close Second" 762
Special English Correspondence, 144, 365, 541, 717, 893

Corscot, John, President Wisconsin Gas Association, Address of 884
Cowles, J. W., Electrical Illumination, The Progress of 627
Cravath, J. R., Illuminating Engineering for the Small Central Station, Some Points on..... 189
*Crescent Auto-Thermo Instantaneous Water Heaters, The Humphrey 839
Cressler, George H., Gasholder Construction, The Development of 926
*Cushioned Type B Non-return Valve, The Anderson 929

D

D'Aprix, Edward, House Piping and the Like... 799
De Knight, Edward W., Waterproofing Concrete and Masonry 364
Denatured Alcohol as Probable Fire Risk Reducer and Health Promoter 408
Depreciation, an Accountant on 847
Development of Gasholder Construction, The, by George H. Cressler 926
*Diagram Covering 15 Years in the Business, by S. J. Fowler 575
Diaries, Power Plant 9.8
*Die Stock, The Beaver Easy Working..... 584
*Domestic Fires, The Production of Coke and its Application to, by Paul Schlicht.....970, 1021
Domestic Gas Lighting, from the Fixture Manufacturer's Standpoint, by L. R. Hopton..... 358
Dow, J. S., Street Photometry, Some Difficulties in 141
*Dredge, Pneumatic Pipe..... 928
*Due to Belts, Accidents with Gas Engines, by "R." 927
Dust Reducing and Hardening Roads by Surface Applications, by J. W. Howard.....582, 624

E

*Easy Working Die Stock, The Beaver..... 584
Economies, Bench Fuel, by F. M. Richards..... 886

EDITORIALS—

Allyn, Horace A., Obituary Note..... 133
American Institute of Electrical Engineers, Regular Meeting 705
American Gas Institute, The "Proceedings".. 617
Atlanta, Ga., The Changes at 529
Baxter, I. C., Retires from Active Business.. 486
Chief's Day, The 793
Correction, A 354, 837, 1013
Cosgrove, W. L., A Loving Cup for..... 705
Cowdery, E. G., Goes to Chicago..... 529
Critic, A Timely, and an Interesting One.... 1058
Dye, N. C., Death of 441
Educative Visit, An, Let us Hope..... 617
Explanation, An 882
Famous Gas Engineers, Death of Two..... 485
Gas Aeronautics 354
Good Time, A Belated Mention of a..... 486
Good Values for Good Shares, A Warrant as to 1013
Illinois Association's Meeting, The..... 529
Illinois Gas Association, The Meeting of the. 441
Illinois Gas Association, The Next Meeting of the 221
Illuminating Engineering Society, February Meeting, Philadelphia Section 310
Illuminating Engineering Society, New York Section 134, 529, 1013
Inclosures, Recent 3.4
In Memoriam 617
Iowa District Association Meeting..... 1057
Menu, Mr. E. G. Cowdery's..... 573
Moses, Frank D., to Put Gas into the Jamestown Exposition 486
Mr. Mackie's Honest Belief..... 661
National Commercial Gas Association, Second Annual Meeting 45
Natural Gas Association, The Joplin Meeting of the 925
"Natural Gas Journal, The" 1
New England Association of Gas Engineers, Special Editorial Correspondence..... 309
New England's Thirty-seventh Meeting, The 265
Pease, Arthur C., Obituary Note..... 45
Personal 1013
Personal, A, and a Bit of History..... 617
Philadelphia Situation, The 926
President Clark's Address 222
Printz, Henry Eugene, Obituary Note..... 397
"Proceedings," Western Gas Association, The Last Volume of 89
Referee's Opinion on the New York City Gas Rate Law, The 881
Report, The Right Sort of a 749
Riter, Thomas B., Obituary Note..... 969
Robb, Remembering Mr. J. M. 573
Sanderson, Charles E., Death of 309
Sanderson, Charles E., Obituary Note..... 353
Secretary McManus, Score One for..... 89
Spear, J. Q. A., Obituary Note 1057
State Commission's Standards, The, for Gas Makers to Follow 794
*Weber, Adam, Obituary Note..... 1
What will Come Next? 925
Wisconsin Gas Association, The Sixth Annual Meeting of the 882

Edwards, W. W., Illuminating Engineering in Central Station Work 980
*Electrical Engineers, April Meeting of the American Institute of 805
Electrical Illumination, The Progress of, by J. W. Cowles 627
Electricity and Gas in Germany, Fires Caused by 102
Electrolysis of Gas Mains, by M. R. Bump..... 452
*Electrolysis, Report of Committee on, Prepared for the American Gas Light Association and Submitted to the American Gas Institute on Behalf of the Former as a Contribution to the Proceedings of the Latter.....97, 137, 178, 222, 266, 310
*Electrolytic Corrosion of Iron and Steel in Concrete, by A. A. Knudson 801
Electrolytic Valve Cells..... 844
Elliott, E. L., Illuminating Engineering, Plain Talks on 619
Employees, How to Create Efficient, by E. N. Wrightington 404
Engineering for the Small Central Station, Some Points on Illuminating, by J. R. Cravath.... 189
Engineering Societies, Building of the, The Plan and Scope of the Illuminating Provision..... 622
Engines, Alcohol, as a Future Power, by Dr. Elihu Thomson 52
*Engines and Motors, Gas and Gasoline, as Factors in Modern Machinery, by "Observer".... 552
*Engine, Producer Gas, Test of a 842
Engines, Flame, Dugald Clerk on 585

INDEX TO VOL. LXXXVI.

*Engines, Gas, Accidents with, Due to Belts, by "R." 927
Engines, Gas, Horse Power Rating of, by H. C. Hart 584
Estimating Acetone, Rapid Method for 937
*Evolution of Railway Car Lighting, The, by G. W. Pearce 1023
*Exhibit at the Oklahoma Corn Carnival, The Oklahoma Gas and Electric Company's 55
*Explosions, Gas Engine Flywheel, by "R." 99
Explosive Phenomena of Mixtures of Gas and Air 936
Explosives Used in Coal Mining, Government Tests for 1064
*Extinguishing the Flame of a 600-Pound Pressure, 1,000,000 Feet Hourly Capacity, Natural Gas Well, by W. M. Welsh 4

F

*Factors in Modern Machinery, Gas and Gasoline Engines and Motors as, by "Observer" 582
Failures of Reinforced Concrete Structures, The Lesson from Recent 140
*Faraway Lands, Light on Light in, by Felix J. Koch 187
February Meeting, New York Section Illuminating Engineering Society 322
*Filter, Oil, The Turbine Centrifugal 717
*Fires, Domestic, The Production of Coke and its Application to, by Paul Schlicht 970, 1021
*Fire in Station "A" of the San Francisco Gas and Electric Company, The Recent 794
Fire Risk Reducer and Health Promoter, Denatured Alcohol as Probable 408
Fires Caused by Electricity and Gas in Germany 102
*Fixture Design and Location, by Major E. L. Zalinski, U. S. A. 230
Fixture Manufacturer's Standpoint, Domestic Gas Lighting from the, by L. R. Hopton 358
Flame Engines, Dugald Clerk on 585
Flow of Steam Through Pipes and from a Given Orifice 892
*Flywheel Explosions, Gas Engine, by "R." 99
*Foresight for Fixing Transit Points, A New 540
*Fowler, Henry, Lighting of Railway Premises, Indoor and Outdoor 320
*Fowler, S. J., Diagram Covering 15 Years in the Business 575
Frampton, R. C., Water Heaters as an Outlet for Gas Companies' Product 406
Free Alcohol Law in Force, The 57
*Frosted Incandescent Lamps, Brief Theory of the Reduction in the Service Life of, by Dr. A. E. Kennelly 890
*Frosted Lamps, an Analysis of the Causes of Candle Power Diminution in, by Preston S. Millar 716
Fuel Economies, Bench, by F. M. Richards 886
Fuel for Firing Gas Benches, Coal as a, by W. R. Rhoades 665
*Fuel Gas Appliances, Report of Committee on Standard Methods of Testing, Submitted to the American Gas Institute, Chicago, Oct., 1906, on Behalf Ohio Gas Light Association 401, 447
Fuel Saving Fallacy, The Latest 847
*Future of Gas Making, The Vertical Retort Oven and the, by Director Elsele 319, 361, 407
Future Power, Alcohol Engines as a, by Dr. Elihu Thomson 52

C

*Garages and Grounds, The Lighting of Modern, by "Engineer" 887
*Garden Lights, by "Engineer" 673
*Gas, A Cincinnati Method of Advertising 974
Gas and Air, Explosive Phenomena of Mixtures of 936
Gas and Electricity in Germany, Fires Caused by 102
*Gas and Gasoline Engines and Motors as Factors in Modern Machinery, by "Observer" 582
Gas Arc Lamp, Introduction of the, by G. R. Chamberlain 274
Gas Benches, Coal as a Fuel for Firing, by W. R. Rhoades 665
Gas Burners, Incandescent, Sensitiveness of, to Sound 838
*Gas Business, Accountancy in the, by H. L. Millspaugh 797
*Gas Burner Soda Kettle, A 583
Gas Coals, A Proposed Classification of, by Henry I. Lea 885
Gas Coke in Heating Stations—A German Inquiry 13
Gas Companies' Product, Water Heaters as an Outlet for, by R. C. Frampton 406
Gas, Cooking by—Is it Injurious to the Meat? 364
*Gas Engineering Shop, Blue Print Frame in the, by "R." 760
*Gas Engine Flywheel Explosions, by "R." 99
*Gas Engines, Accidents with, Due to Belts, by "R." 927
Gas Engines, Horse Power Rating of, by H. C. Hart 584
Gasholder Construction, The Development of, by George H. Cressler 926
*Gas in Barrel Making, The First Use of 232
Gas Lighting, Domestic, from the Fixture Manufacturer's Standpoint, by L. R. Hopton 358
Gas Lighting, Recent Railway Accidents and the Safety of 100
Gas Mains, Electrolysis of, by M. R. Bump 452
*Gas Making, The Vertical Retort Oven and the Future of, by Director Elsele 319, 361, 407
Gas Mantles, Incandescent, The Process of Making, by M. C. Whitaker 530
Gases, Note on the Adiabatic Volume-Change on Mixing Two, by Alfred J. Lotka 935
*Gas Globe Signs, by "Engineer" 973
*Gasholder, An Ancient 888
Gas Lighting in Schools, High Pressure 850
*Gas Office Building, A Brazilian 891
Gasoline from Gases, Making 892
*Gas Pipes, Cleaning Out, by "R." 842
*Gas Pipe Trussing, by "R." 276
*Gas Producer Practice, Steam in, by W. A. Bone and R. V. Wheeler 929, 974
Gas Retorts, Vertical, A Report on 12
Gas Securities, The Market for 16, 60, 104, 148, 192, 236, 280, 324, 368, 412, 456, 500, 544, 588, 631, 676, 720, 764, 808, 852, 896, 940, 984, 1028, 1072
*Gas Turbine, A German 618
Gas versus Steam, by Louis Ilmer, Jr. 799
*Gas Washer, The Pettit & Barrows, by F. Pettit 232
*Gauge, The Unison Telemetric Pressure 1068
Gifford, N. W., School Room Lighting, Some Instances of 530
Government Tests for Explosives Used in Coal Mining 1064
Government Tests on West Virginia Coal, The 981
*Great White Light and the Nourished Plant, The, by "R." 538
Grey, J. C., Gas Arc Maintenance, Methods and Results 1059
Ground Leakage of Illuminating Gas, Death by 582

H

Hart, H. C., Gas Engines, Horse Power Rating of 584
Heating Stations, Gas Coke in—A German Inquiry 13
*Highest Light and the Last in America, The 99
High Pressure Gas Lighting in Schools 850
Honeywell, Homer, Outline Lighting 233
Hopton, L. R., Domestic Gas Lighting from the Fixture Manufacturer's Standpoint 358
House Piping and the Like, by Edward D'Aprix 799
Howard, W., Reducing Dust and Hardening Roads by Surface Applications 582, 624
*Humphrey Crescent Auto-Thermo Instantaneous Water Heaters, The 839
Humphreys, Dr. Alexander C., Records and Accounts, The Present and Growing Need for the General Adoption of a Uniform System of 398, 444
Humphrys, Norton H., Correspondence, Special English 144, 365, 541, 717, 893

I

*Ideal Shop, The Operation of an, by C. B. Strohn 708
Illinois Gas Association, Third Annual Meeting, 662, 706, 750
Illinois Oil Field, The 143
Illuminants, Recent, The Colors of 278
*Illuminating Engineering, A Noteworthy Example of Modern 55
Illuminating Engineering for the Small Central Station, Some Points on, by J. R. Cravath 189
Illuminating Engineering in Central Station Work, by W. W. Edwards 980
Illuminating Engineering Society, Chicago Section, The May Meeting of the 934
Illuminating Engineering Society, February Meeting, New York Section 322
Illuminating Engineering, Plain Talks on, by E. L. Elliott 619
Illuminating Gas, Death by Ground Leakage of 582
Illuminating Power and Calorific Value, by R. Nelson 188
Illuminating Provision, The Plan and Scope of the, Building of the Engineering Societies 622
Illumination and Light, by Dr. C. P. Steinmetz, 450, 495
Illumination, Electrical, The Progress of, by J. W. Cowles 627
Ilmer, Louis, Jr., Gas versus Steam 799
Incandescent Gas Burner, Sensitiveness of, to Sound 838
Incandescent Gas Mantles, The Process of Making, by M. C. Whitaker 530
*Incandescent Lamps, Frosted, a Brief Theory of the Reduction in the Service Life of, by Dr. A. E. Kennelly 890
Incandescent Mantle and the Rare Earths, by Frederic Bonnet, Jr. 888
Increasing Business, Schemes for, by J. G. Learned 619
Indiana, The Coal Industry in 276
*Instantaneous Water Heaters, The Humphrey Crescent Auto-Thermo 839
*Institute of Electrical Engineers, American, April Meeting of the 805
*Interior Illumination, with Special Reference to the Meeting Room, by T. J. Litle 979
*Iron and Steel in Concrete, Electrolytic Corrosion of, by A. A. Knudson 801
Items of Interest from Various Localities, 14, 58, 102, 146, 190, 234, 278, 322, 366, 410, 454, 498, 542, 586, 629, 674, 718, 762, 806, 850, 894, 938, 982, 1026, 1070

J

Joost, J. F. W., Schoolroom Lighting, Instances of 760

K

*Kennelly, Dr. A. E., Brief Theory of the Reduction in the Service Life of Frosted Incandescent Lamps, a 890
Kenyon, J. D., Salesmanship 356
*Knudson, A. A., Electrolytic Corrosion of Iron and Steel in Concrete 801
*Koch, Felix J., Light on Light in Faraway Lands 187

L

Lamp, Gas Arc, Introduction of the, by G. R. Chamberlain 274
*Lamps, Frosted, an Analysis of the Causes of Candle Power Diminution in, by Preston S. Millar 716
Lea, Henry I., Gas Coals, a Proposed Classification of 885
Learned, J. G., Increasing Business, Schemes for 619
Lee, C. W., "More Gas," a Little Talk on the Advertising End of the Gas Industry 318
Lengthy Storage of Coal on Coking Qualities of Same, Influence of 843
*Lidgerwood Mast Hoist, a New 1025
*Life of Frosted Incandescent Lamps, a Brief Theory of the Reduction in the Service, by Dr. A. E. Kennelly 890
Light and Illumination, by Dr. C. P. Steinmetz 450, 495
*Lighted Upper Apartments, by "R." 186
*Lighthouse, A Notable Way of Moving a 845
Lighting, Aids to Progress in, by J. S. Codman 628
Lighting From the Fixture Manufacturer's Standpoint, Domestic Gas, by L. R. Hopton 358
*Lighting of an Office Building, The, by Charles M. Cohn 671
*Lighting of Modern Garages and Grounds, The, by "Engineer" 887
*Lighting of Railway Premises, Indoor and Outdoor, by Henry Fowler 320
*Lighting of the Offices of the Consolidated Gas Company, N. Y., by W. J. Clark 493
Lighting, Outline, by Homer Honeywell 233
*Lignting, Primitive Public 495
Lighting, Recent Railway Accidents and the Safety of Gas 100
Lighting Schoolrooms, Instances of, by J. F. W. Joost 760
Lighting, The Moore Tube System of, by E. H. Clifford 839
*Light on Light in Faraway Lands, by Felix J. Koch 187
*Lights, Garden, by "Engineer" 673
*Litle, T. J., Interior Illumination, with Special Reference to the Meeting Room 979
Lotka, Alfred J., Note on the Adiabatic Volume-Change on Mixing Two Gases 935

M

Mackie, Arthur D., New Business Methods 669
Mains, Gas, Electrolysis of, by M. R. Bump 452
Maintenance, Gas Arc, Methods and Results, by J. C. Grey 1059
Mantles, Incandescent Gas, The Process of Making, by M. C. Whitaker 530
Mantle, The Incandescent, and the Rare Earths, by Frederic Bonnet, Jr. 888
Market for Gas Securities, The, 16, 60, 104, 148, 192, 236, 280, 324, 368, 412, 456, 500, 544, 588, 631, 676, 720, 764, 808, 852, 896, 940, 984, 1028, 1072
Masonry and Concrete, Waterproofing, by Edward W. De Knight 364
*Mast Hoist, a New Lidgerwood 1025
May Meeting of the Illuminating Engineering Society, Chicago Section, The 934
McGregor, William, President New England Association of Gas Engineers, Address of 354
McLean, George B., President of the Iowa District Gas Association, Address of 1058
*Meeting Room, Interior Illumination, with Special Reference to the, by T. J. Litle 979
*Meter Taker, Chats with a, by "Inspector" 796
Method for Estimating Acetone, Rapid 937
*Millar, Preston S., Candle Power Diminution in Frosted Lamps, an Analysis of 716
*Millspaugh, H. L., Accountancy in the Gas Business 797
Milwaukee Gas Company Sells Appliances, Why the 539
Mining Coal, Government Tests for Explosives Used in 1064
Mixing Two Gases, Note on the Adiabatic Volume-Change On, by Alfred J. Lotka 935
Mixtures of Gas and Air, Explosive Phenomena of 936
*Modern Garages and Grounds, The Lighting of, by "Engineer" 887
*Modern Illuminating Engineering, A Noteworthy Example of 55
*Modern Machinery, Gas and Gasoline Engines and Motors as Factors in, by "Observer" 582
Moore Tube System of Lighting, The, by E. H. Clifford 839
"More Gas"—A Little Talk on the Advertising End of the Gas Industry, by C. W. Lee 318
*Moving a Lighthouse, A Notable Way of 845
Municipal Ownership, A Seamy Side of 982

N

Naphthaline, Methods of Removing from a 16-Inch Pipe, by D. F. Burritt 574
Nelson, R., Illuminating Power and Calorific Value 188
New Business Department for Central Stations in Small Cities, A, by C. E. Stannard 846
New Business Methods, by Arthur D. Mackie 669
New England Association of Gas Engineers, Thirty-seventh Annual Meeting 442, 486, 530, 574
New Profession, A 980
New York Section, Illuminating Engineering Society, February Meeting 322
New York's Public Utilities Law 1068
NOTICES—
Iowa District Gas Association 881, 925, 969
NOTICES, OFFICIAL—
American Gas Institute, 749, 793, 837, 881, 925, 969, 1013, 1057
New England Association of Gas Engineers, 45, 89, 133, 177, 221, 265
Wisconsin Gas Association 705, 749, 793

O

*Office Building, The Lighting of an, by Charles M. Cohn 671
*Offices of the Consolidated Gas Company, N. Y., Lighting of the, by W. J. Clark 493
Oil and Petroleum Products, A Texas Bill Respecting 626
Oil Field, The Illinois 143
*Oil Filter, The Turbine Centrifugal 717
Oil, The Year 1906 in 277
*Oklahoma Gas and Electric Company's Exhibit at the Oklahoma Corn Carnival, The 55
Operating Water Gas Machines, The Best Method of, by W. I. Battin 751
*Operation of an Ideal Shop, The, by C. B. Strohn 708
*Osaka (Japan) Gas Company, The 53
Outline Lighting, by Homer Honeywell 233
Ownership, Municipal, A Seamy Side of 982

P

Paints for Roofs 409
Patent Issues, Recent 628, 673

INDEX TO VOL. LXXXVI.

*Pearce, G. W., Railway Car Lighting, The Evolution of 1023
Petroleum Products, A Texas Bill Respecting Oil and 626
*Pettit & Barrows Gas Washer, The, by F. Pettit 232
Phenomena of Mixtures of Gas and Air, Explosive 936
Photometry, Street, Some Difficulties in, by J. S. Dow 141
*Pipe Bending Machine, Stoever's 761
Pipes, Flow of Steam Through, and from a Given Orifice 892
*Pipes, Gas, Cleaning Out, by "R." 842
Pipe Trussing, Gas, by "R." 276
Piping, Customer's, Rehabilitation of, by John C. D. Clark 185
*Pneumatic Pipe Dredge 928
Portland Cement 142
*Positive Rays, Röntgen, Cathode and, by Prof. J. J. Thomson 622
Power Plant Diaries 938
Power Production and Refrigeration 143
*Pressure Gauge, The Unison Telemetric 1068
*Producer Gas Engine, Test of a 842
Producer Gas Plant, A Large 58
Progress in Lighting, Aids to, by J. S. Codman. 628
Profession, A New 980
Proportions for Concrete, Selecting Proper 144
Proposed Classification of Gas Coals, A, by Henry I. Lea 885
*Public Lighting, Primitive 495
Public Utilities Law, New York's 1068

R

*Railway Car Lighting, The Evolution of, by G. W. Pearce 1023
*Railway Premises, Indoor and Outdoor, Lighting of, by Henry Fowler 320
Rare Earths, The, and the Incandescent Mantle, by Frederic Bonnet, Jr. 888
*Recent Fire in Station "A" of the San Francisco Gas and Electric Company, The 794
Recent Illuminants, The Colors of 278
Records and Accounts, The Present and Growing Need for the General Adoption of a Uniform System of, by Dr. Alexander C. Humphreys 398, 444
Reducing Dust and Hardening Roads by Surface Applications, by W. Howard 582, 624
*Reduction in the Service Life of Frosted Incandescent Lamps, A Brief Theory of the, by Dr. A. E. Kennelly 890
Refrigeration and Power Production 143
Reinforced Concrete Structures, The Lesson from Recent Failures of 140
*Retort Oven, The Vertical, and the Future of Gas Making, by Director Eisele 319, 361, 407
*Retort Settings, Vertical, The Woodall-Duckham 1064
Retorts, Vertical Gas, A Report on 12
Rhoades, W. R., Coal as a Fuel for Firing Gas Benches 665
Richards, F. M., Bench Fuel Economies 886
Road Construction, Tar in 843
*Roller Compressed Road Making in Santa Monica, Cal., Asphaltic Dripped 625
*Röntgen, Cathode and Positive Rays, by Prof. J. J. Thomson 622
Roofs, Paints for 409

S

Safety of Gas Lighting, Recent Railway Accidents and the 100
Salesmanship, by J. D. Kenyon 353
*Schlicht, Paul, Production of Coke and its Application to Domestic Fires, The 970, 1021
Schoolroom Lighting, Instances of, by J. F. W. Joost 760
School Room Lighting, Some Instances of, by N. W. Gifford 530
Schools, High Pressure, Gas Lighting in 850
Seamy Side of Municipal Ownership, A 982
Securities, Gas, The Market for 16, 60, 104, 148, 192, 236, 280, 324, 368, 412, 456, 500, 544, 588, 631, 676, 720, 764, 808, 852, 896, 940, 984, 1028, 1072
*Service Life of Frosted Incandescent Lamps, A Brief Theory of the Reduction in the, by Dr. A. E. Kennelly 890
*Signs, Gas Globe, by "Engineer" 973
*Smoke Stack, The Tottering, by "R." 363
*Standard Methods of Testing Fuel Gas Appliances, Report of Committee on, Submitted to the American Gas Institute, Chicago, Oct., 1906, on Behalf Ohio Gas Light Association .. 401, 447
Stannard, C. E., New Business Department for Central Stations in Small Cities, A 846
*Station "A" of the San Francisco Gas and Electric Company, The Recent Fire in 794
Steam, Flow of, Through Pipes and from a Given Orifice 892
*Steam in Gas Producer Practice, by W. A. Bone and R. V. Wheeler 929, 974
Steam versus Gas, by Louis Ilmer, Jr. 799
*Steel and Iron in Concrete, Electrolytic Corrosion of, by A. A. Knudson 801
Steinmetz, Dr. C. P., Light and Illumination .. 450, 495
*Stoever's Pipe Bending Machine 761
Storage of Coal on Coking, Qualities of Same, Influence of Lengthy 843
*Strange Upsetting, A 801
Street Photometry, Some Difficulties in, by J. S. Dow 141
*Strohn, Ideal Shop, The Operation of an 708
Structures, Reinforced Concrete, The Lesson from Recent Failures of 140
*Supply Shop, Plan of, by "R." 229
Surface Applications, Reducing Dust and Hardening Roads by, by W. Howard 582, 624

T

Tar in Road Construction 843
Tarr, R. P., Washington Coal Situation, The 934
*Telemetric Pressure Gauge, The Unison 1068
*Testing Fuel Gas Appliances, Report of Committee on Standard Methods of, Submitted to the American Gas Institute, Chicago, Oct., 1906, on Behalf Ohio Gas Light Association. 401, 447
Tests for Explosives Used in Mining Coal, Government 1064
Thomson, Dr. Elihu, Alcohol Engines as a Future Power 52
*Thomson, Prof. J. J., Röntgen, Cathode and Positive Rays 622
*Tottering Smoke Stack, The, by "R." 363
*Transit Points, A New Foresight for Fixing 540
Trussing Gas Pipe, by "R." 276
*Turbine Centrifugal Oil Filter, The 717
*Turbine, Gas, A German 618

U

Uniform System of Records and Accounts, The Present and Growing Need for the General Adoption of a, by Dr. Alexander C. Humphreys, ... 398, 444
*Unison Telemetric Pressure Gauge, The 1068
*Upper Apartments, Lighted, by "R." 186
*Upsetting, A Strange 801

V

Valve Cells, Electrolytic 844
Vertical Gas Retorts, A Report on 12
*Vertical Retort Oven and the Future of Gas Making, The, by Director Eisele, ... 319, 361, 407
*Vertical Retort Settings, The Woodall-Duckham 1064

W

Washington Coal Situation, The, by R. P. Tarr. 934
Water Gas Machines, The Best Method of Operating, by W. I. Battin 751
Water Heaters as an Outlet for Gas Companies' Product, by R. C. Frampton 406
*Water Heaters, The Humphrey Crescent Auto-Thermo Instantaneous 839
Waterproofing Concrete and Masonry, by Edward W. De Knight 364
*Welsh, W. M., Extinguishing the Flame of a 600-Pound Pressure, 1,000,000 Feet Hourly Capacity, Natural Gas Well 4
West Virginia Coal, The Government Tests on .. 981
*Wheeler, R. V., and W. A. Bone, Steam in Gas Producer Practice 929, 974
Whitaker, M. C., Incandescent Gas Mantles, The Process of Making 532
Wisconsin Gas Association, Sixth Annual Meeting, ... 882, 1014, 1060
*Woodall-Duckham Vertical Retort Settings, The 1064
Wrightington, E. N., Efficient Employees, How to Create 404
Wrightington, E. N., Commercial Departments in the West, Some 489

Z

*Zalinski, Major E. L., U. S. A., Fixture Design and Location 230

SPECIAL INDEX OF REPORTS OF PROCEEDINGS OF ASSOCIATIONS.

American Gas Institute—First Annual Meeting.

(Continued from Vol. LXXXV.)

"A" Meters, Results of Tests on 3
Bureau of Information of the Ohio Gas Light Association, Report of the, to the American Gas Institute 96
Electrolysis, Communication from Mr. Glasgow Regarding 90
Forstall, Walton, A Communication from 96
Industrial Gas Appliances, Methods of Testing .. 7
Kellogg, L. L., Communication from 3
Novelty Advertising and New Business Methods 3
Partial Report, A 97

*Wrinkle Department—

Advertising 51
Ammonia Stills, Automatic Control of 10
Appliance Wagon 48
Bench Heats, Inspecting 8
Blasting, Rope Mats for 46
Chart for Charging Retorts 8
Cleaning Pipe 47
Coal Gas Costs and Credits 51
Complaint, Why? 51
Connecting to a Small Branch on a Large Main without Bagging Off the Large Main 47
Cutter for Lead Pipe 48
District Pressure Booster 12
Ditching, Tees and Rod Used in 46
Drip and Gate Marker 51
Filter for Overflow of Water, Gas Tar Separators 9
Flue Gases, Sampling 12
Gas Stove, Detachable 51
Holder, Filling with Air 10
Holder Heights at Night 12
Lamp Lighting, Portable Step for 48
Leveling Mains 47
Map and Tack System 50
Meter Readers, Securing and Training 48
Naphthaline, Continuous Test for 51
Outdoor Gas Arcs, Maintaining 48
Permanently Plugging a Small Branch on a Large Main where a Wood Plug now Exists, without Bagging Off the Large Main 47
Pile Driver for Foundations, Electric 10
Pressure Alarm, Electrical 10
Pressure Gauge 10
Recording Holder Gauge 51
Safety Devices 10
Sales, Method of Showing 51
Scraper for Refilling Ditches 48
Scurfing Retorts 8
Seal of Water Gas Apparatus, Supplying Hot Water to 9
Service Kit 48
Stop Box for Sidewalks Hollow Underneath. 47
Sulphur in Coal, Quick Estimation of 11
Tar Burner 9
Temperatures in Water Gas Operation 8
Valve Box and Locations 47
Ventilating Retort House 8

Papers Read—

Commercial Gas Man, The Relation of the, to the Industry, by Charles A. Learned, John C. D. Clark and Richard H. Thomas. 93
*Extinguishing the Flame of a 600-Pound Pressure, 1,000,000 Feet Hourly Capacity, Natural Gas Well, by W. M. Welsh 4

Illinois Gas Association Third Annual Meeting.

Address of Mayor Tolson 662
Address of Mayor Tolson, Senator Shumway's Response to 663
Affiliation 669
Associate Member, Adding an 581
Auditing Committee, Report of 663
Business, New 663
By-Laws, Amendments to the 664
Fraternal Communication, A 750
Next Place of Meeting 751
Resolution of Thanks, A 751
Letters and Telegrams 663
Secretary, Statement from the 750
Secretary-Treasurer, Report of the 663

Papers Read—

Coal as a Fuel for Firing Gas Benches, by W. R. Rhoades 665
*Ideal Shop, The Operation of an, by C. B. Strohn 708
New Business Methods, by Arthur D. Mackie 669
Water Gas Machines, The Best Method of Operating, by W. I. Battin 751

New England Association of Gas Engineers Thirty-seventh Annual Meeting.

Address of President 354
Address of President, Appointment of Committee on 443
Correspondence, The Reading of 443
Directors, Report of the 442
Fire Extinguishing Equipment in Gas Works 577
Governor Guild's Greeting 491
Members, New, Election of 442
Minutes of Last Meeting 442
Mr. Klumpf's Narrative 581
Nominating Committee, Report of 531
Obituary Resolutions, Appointing Special Committees on 443
Officers, Election of 531
Question Box 492, 530, 532, 575, 577
Roll Call 489
Sanderson, Charles E., Minute to the Memory of 581
Secretary, A Communication from the 489
Secretary, Report of the 443
Special Committee in re Dr. Humphrey's Paper, Appointment of 531
Tar as Fuel, A Discussion on 443
Treasurer, Report of the 443

Papers Read—

Commercial Departments in the West, Some, by E. N. Wrightington 489
*Diagram Covering 15 Years in the Business, by S. J. Fowler 575
Incandescent Gas Mantles, The Process of Making, by M. C. Whitaker 532
Naphthaline, Methods of Removing from a 16-Inch Pipe, by D. F. Burritt 574
School Room Lighting, Some Instances of, by N. W. Gifford 530
Uniform System of Records and Accounts, The Present and Growing Need for the General Adoption of a, by Dr. Alexander C. Humphreys 398, 444

Wisconsin Gas Association Sixth Annual Meeting.

Address, Inaugural 884
Address, Inaugural, Appointment of Committee on 884
Address, Inaugural, Report of Committee on 1063
Affiliation, Appointment of Committee on 1060
Executive Committee, Report of the 882
Letter, A 1062
Meeting Time, Changing Date of 1015
Members, New, Election of 882
Next Place of Meeting, Appointment of Committee on 1015
Next Place of Meeting,, Report of Committee on 1063
Nominations, Report of Committee on 1063
Question Box 1018, 1060
Roll Call 1014
Secretary-Treasurer, Reports of the 883
Special Committees, Reports from 883
Telegrams 1014, 1029
Thanks, Votes of 1064

Papers Read—

Bench Fuel Economies, by F. M. Richards 886
Gas Coals, A Proposed Classification of, by Henry I. Lea 885
Gasholder Construction, The Development of, by George H. Cressler 926